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Book reviews

Bioactive Molecules and Medicinal Plants, K.G. Ramawat, J.M. Mérillon (Eds.), 2008, Springer-Verlag, Heidelberg, Germany, Price: $269.00, Hard Cover, 379 pages, ISBN: 978-3-540-74600-3, Website: http://www.springer.com

There are a growing number of books available on the topic of biologically active compounds from medicinal plants due to the increasing interest in this field of research. This new publication covers recent developments in the field and, as the title suggests, it deals with chapters focussed on different classes of bioactive molecules, as well as medicinal plants as a whole. It not only deals with the "medicinal" effects of plant compounds, but includes information related to plant biotechnology and the production of compounds in cell and tissue cultures.

The book comprises 19 chapters which are well written and contain recent information on the topics. The first chapter, as found in other similar books, is a general introduction on drug discovery from plants. This includes a section on recent developments in drug discovery from plants, providing information on new plant-derived drugs launched since 2001, as well as plant-derived compounds and plant extracts currently involved in clinical trials. The main body of the book provides an interesting mix of contributions and covers various aspects relating to bioactive compounds and medicinal plant research. These include chapters on grapevine stilbenes, isoflavonoid phyto-oestrogens, secondary metabolites in plant cell and tissue cultures (e.g. alkaloids, azadirachtin, rosmarinic acid and taxol), and hairy root cultures. Other chapters review guggulsterone from *Commiphora wightii*, silymarin from *Silybum marianum*, the production of dianthrones and phloroglucinol derivatives in St. John's Wort, the Ayurvedic medicinal plant *Bacopa monnieri*, camptothecin in *Nothapodytes nimmoniana*, colchicine, arabinogalactan protein and arabinogalactan, and biologically active compounds in *Rhodiola rosea*. There is also a short review on apoptosis and plant-derived compounds, and the last two chapters discuss the standardization of herbal drugs and the scenario of herbal drugs in India.

Overall, this book provides a good source of recent information on certain aspects of medicinal plant research. One drawback, however, is that the references given at the end of each chapter are not provided in full (i.e. the journal article titles have been excluded). Although this formatting style does save a little on printing space, it is very useful for researchers to be able to read the title of the relevant reference. Neatly presented and informative, this book would be a useful addition to University Libraries and researchers working in the field.

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An Introduction to Plant Breeding, Jack Brown and Peter Caligari. 2008, Wiley-Blackwell Publishing, Price: £39.50 Hard cover, 224 pages, ISBN 13: 978-1-4051-3344-9, E-mail: cs-books@wiley.co.uk, Website: www.wiley.com

This is no "Idiot's Guide to Plant Breeding", nor is it an attempt to reduce the intricate and complex beauty of genetics to a level any lay-person can understand. This is a careful and meticulous description, explanation and application of scientific and practical principles that have shaped plant breeding programmes in the past and present. Concepts are clearly explained with relevant worked examples. Each chapter closes with a section containing "Think questions" that probe the concepts of that chapter in greater depth and challenge the reader to explore the theoretical and practical aspects of the topics.

Chapter 1 outlines the duties of plant breeders, evolution of crop species, contrasts natural and human selection and highlights the contribution that modern plant breeders have had on crop improvement. Chapter 2 provides detailed information on sexual and asexual modes of reproduction, how different types of cultivars are formed and their suitability to species with different breeding systems. Chapter 3 defines the process of developing breeding objectives within a local and global context where public perceptions, opinions, political and economic criteria may change. Increasing grower profitability, end-use quality and pest and disease resistance are highlighted in this section. A thorough examination of the various breeding schemes is provided in Chapter 4. Included here are discussions on heterosis and how seed production for various cultivars differs. Understanding the importance of gene action and interaction with other genes and the environment is a vital aspect determining successful breeding. Chapter 5 discusses qualitative and quantitative genetic action in